

**EOSDIS IV&V
Monthly Status Report
For the Period 9/1/96 to 9/30/96
(Deliverable 0201D.1)**

October 15, 1996

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1. PERFORMANCE INFORMATION

1.1 Contract Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task is also indicated.

1.2 Programmatic Information

a) Key Recent Accomplishments

- Provided final inputs to Task SOWs for the period 10/1/96 through 12/31/96. Worked with IV&V COTR to restructure Tasks 5, 6, and 9 into a single task (i.e., Task 8).
- Supported NASA initiative to shift to Performance Based Contracting (PBC) by developing an evaluation template for Discrete Work Packages (DWPs) and a strawman Work Breakdown Structure (WBS).
- Assisted ESDIS by providing on-going analysis of the ECS Replan and the impact on test schedules.
- Participated in EOSDIS Executive Council Meeting, held on 9/20/96.
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.
- Continued on-going training of contract personnel. Training in September included internal lectures on Telemetry Subsystem, FDF workstations, Data Management Subsystem, Command Subsystem, and Analysis Subsystem; classes on TDRSS Orientation, and TDRSS Scheduling and Real-time Operations; training on UNIX system for users, and configuration protocols for Cisco routers; and self-paced tutorials in Management and Security, and Windows 95.

b) Planned Activities

- Implement the new task structure for Task 8, Development Life Cycle Analysis.
- Continue supporting NASA initiative to move toward Performance Based Contracting.
- Initiate bi-weekly e-mail transmissions to ESDIS senior staff summarizing the statuses of IV&V Technical Issue Memoranda (TIMs).

Exhibit 1-1: Org Chart (Landscape)

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Expected Date Due	Dependency	Milestone/Deliverable	Task #	Status*	Comments
9/13/96		ISE Infrastructure Metrics Report for August	4	C	Submitted on time.
9/13/96		Release B Operations Scenarios to Rqmts TAM	5	C	Submitted ahead of schedule on 8/14/96.
9/13/96		ECS Performance Prediction Assessment TAM	5	C	Submitted ahead of schedule on 8/27/96.
9/16/96		EGS I&T Program Test Packages (Preliminary)	11	C	Submitted on time.
9/30/96		Revised Rqmts Baseline Assessment TAMs (Second Assessment)	5	C	Submitted ahead of schedule on 9/4/96.
9/30/96		Task 6C Monthly Metric Report	6	C	Submitted on time.
9/30/96		Configuration Optimized CCM	7	D	Delayed due to unavailability of source documentation.
9/30/96		EOSDIS ICD Issue Reports	9	C	Submitted ahead of schedule on 9/10/96.
10/15/96		EGS I&T Program Test Packages (Review)	11	IP	
10/15/96		EGS I&T Joint Test Packages (for AM-1, Initial)	11	IP	
10/18/96		CCM Enhanced System Prototype (Sun)	7	IP	
10/31/96		TAM on Interface Document Changes	8	O	
10/31/96		TAM on Interface Document Issues and Work Off Plans	8	O	

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

EXHIBIT 1-2: Status of Milestones/Deliverables

- Participate in next IV&V Findings Meeting with ESDIS Management, currently scheduled for 10/22/96.
- Explore training needs in Tivoli and Rational Rose to support IV&V analysts and SI&T testers. Novell training scheduled for System Administrator in October.

1.3 Technical Task Information

Task # 4: IV&V Infrastructure and Tool Development

a) Task Accomplishments

- Demonstrated the Test Management Database (TMDB) Version 3.4 and the latest prototype of the EGS I&T Confidence Test Program Electronic File Cabinet (CTP-EFC) to GSFC ESDIS SI&T personnel. This demonstration focused on automated tool capabilities, benefits, and the utilization of these tools on the EGS I&T effort.
- Submitted the Integrated Support Environment (ISE) Infrastructure Metrics Report for August.
- Executed the RTM-to-ISE tool to port the ECS 09/14 baseline requirements to the ISE TMDB requirements table.
- Released Version 3.3.1 of the Automated Requirements Database (ARDB).
- Released Data Management Database (DMDB) Version 2.0. Changes include:
 - ◊ Creating new executive interface form with buttons to provide access to GFE hardware, software, maintenance, component, and reporting capabilities.
 - ◊ Creating a GFE item report and a GFE summary report.
- Continued M&O activities for the Test Management Database (TMDB). All changes will be released in TMDB Version 3.5.
- Continued M&O activities for the Project Issue Tracking System (PITS). PITS Version 2.8 should be released in late November.
- Continued M&O activities for the EOSDIS IV&V Homepage, EGS I&T Homepage, and PITS WWW Browser Homepage.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- EWA performance has been very good. Specific activities included maintaining and operating the Test Management Database (TMDB).

d) Planned Activities

- Continue incremental development of the EGS I&T Confidence Test Program Electronic File Cabinet. Complete test package library page development.
- Install EDOS RTM export upon receipt from CSC.
- Update DMDB information as it is received.
- Continue support (refinement, development, and maintenance) for the ARDB, PITS, and TMDB client/server tools.
- Continue maintenance for the EOSDIS IV&V Homepage, EGS I&T Homepage, and the PITS WWW Browser Homepage.
- Perform system administration duties for both LANs, hardware, and COTS software as required.
- Support program meetings and briefings as required.

Task # 5: Requirements Analysis and Traceability

a) Task Accomplishments

- Supported Mark Simons on Bones/ECS modeling.
- Supported ESDIS/CSC modeling project by consulting on User Pull modeling.
- Delivered advance copies of ECS Release B requirements evaluation (detailed charts) to Hughes to support their baseline corrections/analysis efforts.
- Completed three TAMs, two of which were customer requested but not part of the original Task 5 SOW:

EOSDIS-IVV-TAM-05-036	9/3/96	SCDO Release A TRMM Impact Analysis
EOSDIS-IVV-TAM-05-037	9/4/96	SCDO FOS Release A and B Requirements Traceability and Analysis Assessment.
EOSDIS-IVV-TAM-05-038	10/3/96	SCDO Release A Requirements Traceability and Analysis Assessment for 09/16/96 RTM Release

b) Issues/Concerns

- Both Hughes and ESDIS QA have become accustomed to regular reviews and reports on each requirements baseline, including working meeting feedback. They need to be briefed on any changes that may result under the new Task 8 structure.

c) Subcontractor Performance

- Subcontractor performance has been good. However, staff stability in the modeling area has become an issue. Although the departing subcontractor personnel have provided effective transitional support, we decreased our dependence on the subcontractor by recently hiring an Intermetrics modeling expert.

d) Planned Activities

- Task 5 has been incorporated within the new Task 8, Development Life Cycle Analysis. Please see Planned Activities under Task 8.

Task # 6: ECS Development Analysis

a) Task Accomplishments

- Prepared and delivered the Monthly Metrics Report for ECS development activities in August (TAM-06-065).
- Delivered TAM on EOSDIS Security Policies and Plans on 9/30/96.
- Reviewed Release A and B DID305 (System Specifications), DID209 (Interface Task Control Documents), DID311 (Database Schema), and DID313 (Internal Interface Specifications) to ascertain if Software Development Plan (SDP) references exist in these documents as required. Identified missing references for the DID311 CSMS and SDPS Database Schema.
- Continued to review available ECS design elements to support TRMM-ECS interface requirements (SDPF and TSDIS).
- Reviewed the TRMM Interface Test Procedures for the EGS I&T.
- Investigating the NCR database to determine if the NCRs contain Release A functionality bottlenecks.
- Participating in the Hughes ECS I&T Schedule Assessment.

b) Issues/Concerns

- The lack of a current ECS design is hampering IV&V activities. Analysis is further hindered by the unavailability of a Rational Rose reverse engineering schedule and a priority schema.

c) Subcontractor Performance

- Subcontractor performance has been good.

d) Planned Activities

- Task 6 has been incorporated within the new Task 8, Development Life Cycle Analysis. Please see Planned Activities under Task 8.

Task # 7: Programmatic and Process Analysis

a) Task Accomplishments

- Demonstrated prototype CCM User Model to Dr. Barkstrom on 9/18/96.
- Enhanced the content of the prototype User Model output file to produce model results in both tab-delimited ASCII and HDF format.
- Made significant revisions to the CCM's handling of instrument classes based on recent updates to Chapters 16 and 17 of the design source documentation.
- Continued developing Enhanced System Prototype, including associated user documentation, to be delivered on 10/18/96.
- Evaluating the use of ObjectAda (Ada 95) instead of Ada 83 as the development language for the Windows NT version of the CCM. This language transition is expected to reduce the complexity of the interface between Teleuse (GUI builder) and the Ada code.

b) Issues/Concerns

- The development team needs additional source documentation to remain productive.

c) Subcontractor Performance

- Not Applicable.

d) Planned Activities

- Deliver Enhanced System Prototype for the Sun to Dr. Barkstrom on 10/18/96. This delivery will include electronic files for release notes and a user manual.
- Develop and refine Windows NT version of the Enhanced System Prototype.

- Continue working on CCM Hardware Model based on availability of source documentation.
- Participate in seminar-demo of CCM Hardware Model to be held at both Langley and Goddard once a functioning model is available.
- Participate in next CCM Executive Panel Meeting, when scheduled.
- Support other program meetings and briefings as required.

Task # 8: Development Life Cycle Analysis

a) Task Accomplishments

- N/A. New task.

b) Issues/Concerns

- N/A. New task.

c) Subcontractor Performance

- N/A. New task.

d) Planned Activities

- Develop overall task structure, including the charters for the following five Integrated Analysis Teams (IATs): Planning and Rapid Analysis (PRA), System and Interfaces Analysis (SIA), System Modeling Analysis (SMA), System Security Analysis (SSA), and Test Analysis and Witnessing (TAW).
- Analyze requirement mappings to test cases when the next RTM is available.
- Analyze requirement mappings to Release B design if available in the next RTM.
- Continue attending Bi-weekly Hughes and TRW modeling meetings.
- Participate in ESDIS/ECS Test Coordination meetings.
- Participate in test witnessing activities as necessary.
- Support on-going review of CCRs for ICWG. Anticipate need to analyze 5 or more documents in October.

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- Continue updating issues in PITS ICWG repository, and present summary report at next ICWG status meeting scheduled for 10/15/96.
- Support program meetings and briefings as required.

Task # 9: Key Interface Analysis

a) Task Accomplishments

- Evaluated and prepared Impact Analysis Reports for the following CCRs:

CCR #	CCR Title
505-41-32-003	Release B Updates to Landsat 7 ICD
505-41-22-002	New Data Flow in ECS-SAGE-III IRD
505-41-42-001	Baseline the ECS-ORNL DAAC ICD
505-01-31-004	Baseline the EOC-SSIM ICD
505-01-31-006	Baseline the DFCB for AM S/C (ICD-106)

- Completed review of System Interface Control Plan and provided comments to ESDIS via e-mail.
- Presented PITS-ICWG Open Issues Report to C. Carlisle and the ICWG on 9/10/96.
- Attended the Fifth ASTER-GDS Interface Meeting, which began on 9/30/96.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- CTA is the task lead for this effort. Their performance has been very good.

d) Planned Activities

- Task 9 has been incorporated within the new Task 8, Development Life Cycle Analysis. Please see Planned Activities under Task 8.

Task # 11: EOS Ground System Integration and Test

a) Task Accomplishments

- Delivered preliminary Confidence Test Packages as scheduled on 9/16/96 in accordance with maturity criteria defined.
- Supported the Fifth ASTER Interface meeting I&T splinter group, ECT-1 general test planning meetings, and the TICTOC.
- Coordinated with EDOS to initiate requirements transfer.
- Completed Level 4 I&T schedule, and provided “what-if” analysis for ATO and ECS I&T test schedules.
- Supported TRMM Sim 1 test planning.
- Supported the completion of ECS/TSDIS message exchange testing.
- Developed EGS Version 1 I&T confidence curve as requested by ESDIS management.

b) Issues/Concerns

- We need hands-on access to the ECS SCDO system and documents in order to achieve the compressed schedule objective (i.e., originally 8 months, now compressed to 7). To date, Hughes has been reluctant to allow this.
- We need a clear definition from Hughes on ECS I&T test scope in order to complete EGS I&T replanning. We are particularly concerned with the impact of configuration changes to A.1 and A.2 on regression testing just prior to the TRMM launch.

c) Subcontractor Performance

- Subcontractor performance has been very good.

d) Planned Activities

- Complete ECS Release A/B replan assessment on I&T overall schedule.
- Deliver Confidence Test Package on 10/15/96.
- Begin external test environment scheduling for both EGS I&T preparation and formal test execution.
- Support TICTOC and other program briefings/meetings as required.

2. FINANCIAL/CONTRACTUAL INFORMATION

**This Section
Has Been Removed
Due to Proprietary Content.**